



## **Education**

### **Parkinson's Disease**

#### **What is Parkinson's disease?**

Parkinson's disease occurs when some of the nerve centers in the brain lose the ability to regulate muscle movements. As a result, you may have rigid muscles, tremors, and trouble walking and swallowing.

Parkinson's disease is one of the most common diseases affecting movement in people over age 55. It is chronic, meaning you will have it the rest of your life. It also is progressive, which means the symptoms grow worse over time. The disease may become disabling after many years. However, proper treatment should make it possible for you to lead a fulfilling, productive life.

#### **How does it occur?**

Parkinson's disease results when nerve cells in a certain part of the brain die or stop working properly. These cells stop producing an important brain chemical called dopamine. Dopamine normally transmits signals to another part of the brain that allows controlled muscle movement. Without enough dopamine, the cells in this part of the brain fire out of control. As a result, you are unable to control your movements normally.

No one knows why the nerve cells die or become impaired. Theories include:

- damage by chemical reactions in the body, such as oxidation
- brain infection
- toxins in the environment such as carbon monoxide
- inherited tendencies.

#### **What are the symptoms?**

A major symptom of Parkinson's disease is tremors. A tremor is a rhythmic shaking over which you have no control. Tremors of the hands and sometimes the head often occur along with a constant rubbing together of thumb and forefinger.

Over time you may stop making some movements that are normally automatic, such as the natural swinging of arms that makes walking smooth. It may become harder to:

- write clearly
- speak clearly
- start to do something
- change positions
- keep your balance when you walk
- get out of a chair.

In the earliest stages of the disease, symptoms may be very slight or may not be noticed. Someone close to you might notice a slight limp, stooped posture, or a mild hand tremor.

Other symptoms may include drooling and abdominal cramps. You may have trouble swallowing. In later stages, there is often a decline in the ability to think and remember.

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## How is it diagnosed?

Accurate diagnosis can be difficult. Your health care provider will ask about your medical history and examine you. He or she will look for the physical signs of tremor, rigid muscles, and slow movements that suggest Parkinson's disease.

There are no tests that can confirm the diagnosis. However, tests are sometimes used to rule out other diseases. A neurologist may be consulted about diagnosis and treatment.

## How is it treated?

There is no cure yet for Parkinson's disease. However, a variety of medicines can give dramatic relief from the symptoms.

In mild cases of Parkinson's disease, your health care provider may not prescribe medicine. Many medicines used to treat Parkinson's disease cause side effects. Your provider will want to see you regularly to keep track of your symptoms and determine when you might benefit from medicine.

Your health care provider may prescribe medicine to help restore the balance of chemicals in your brain. The main goal of treatment is to keep your movements as normal as possible with the smallest amount of medicine. It may not be possible to get rid of all your symptoms.

Your treatment may also include speech therapy and physical therapy. In severe cases not helped by medicine, surgery may help prevent uncontrollable tremors.

## Medicine:

Several different drugs are used to treat Parkinson's disease. Your health care provider will try to use the smallest effective dosage to reduce the chance of unpleasant side effects.

Levodopa is the main medicine used to treat Parkinson's disease. The brain can make dopamine from levodopa. Possible side effects of this medicine are:

- abnormal movements of the face, trunk, arms, and legs
- nausea and vomiting
- short-term memory loss
- confusion.

Eating less protein may help to make levodopa work better. However, do not begin a low-protein diet without first talking to your health care provider. A major risk with a low-protein diet is weight loss and malnutrition. If you have closed-angle glaucoma, you should not take levodopa.

Some of the other medicines your provider may prescribe are:

- dopaminelike drugs such as bromocriptine and pergolide
- amantadine, a drug used to treat flu
- anticholinergic drugs, such as benztropine (Cogentin), trihexyphenidyl (Artane), and orphenadrine (Norflex)
- selegiline, a drug that slows the breakdown of dopamine and may help slow down the worsening of symptoms over time, especially in the early stages of the disease.

## Exercise:

A program of daily exercise will help you have better use of your muscles. Exercise can help prevent problems that occur when muscles are not used. It will increase your muscle strength and improve coordination. You will have less muscle rigidity. Physical therapy can teach you how to walk and move in a way that will reduce your risk of falling.

## How long do the effects last?

As a result of treatment that relieves symptoms, many people with this disease remain in fairly good health for years. The disease progresses despite treatment, however, and can become disabling over time.

## What can I do to prevent Parkinson's disease?

Health care providers do not know how to prevent this disease.

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## How can I take care of myself?

To cope with Parkinson's disease and to relieve your symptoms:

- Be sure you and your family know how your medicines work. Know what the side effects are and when you should call your health care provider.
- Do not take any medicines, including nonprescription products, without letting your health care provider know.
- Make your house safer:
  - Put up handrails along walkways.
  - Remove anything that might cause falls.
  - Use chairs with high arms.
  - Use carpeting to help cushion falls.
  - Be sure seats (including shower seats) have sturdy backs.
  - Put handrails in the bathroom.
  - Consider installing a device that raises the toilet seat.
- Use an electric shaver to avoid cuts from razors.
- Try to make it easy for you to dress yourself:
  - Wear loafers or shoes that close with Velcro strips instead of shoes with laces.
  - Wear clothing that is easy to get on and off.
  - When possible, use Velcro strips on clothing instead of zippers or buttons.
- If you have problems swallowing:
  - Take as much time as you need to eat meals.
  - Sit upright.
  - Thick liquids are easier to swallow than thin liquids.
  - Use an electric warming tray to keep food hot during the long time it may take to finish a meal.
  - Weigh yourself once a week to make sure that you are not losing too much weight.
- Reduce constipation by drinking more water and eating more foods that are high in fiber. High-fiber foods include whole-grain breads and cereals, beans, fruits, and vegetables.
- If you have speech problems, work on other ways to make your needs known. Practice speech exercises your health care provider or speech therapist may give you.
- Stay as active as possible. Keep involved in your work, hobbies, and other activities.
- Get support from family and friends. Keeping a positive attitude can be quite helpful.
- For more information contact: Parkinson's Disease Foundation William Black Medical Research Building Columbia Presbyterian Med. Ctr. 710 W. 168th St. New York, NY 10032-9982 Phone: 800-457-6676 Web site: <http://www.pdf.org> National Parkinson Foundation, Inc. 1501 NW 9th Avenue/Bob Hope Road Miami, Florida 33136 Phone: 800-327-4545 Web site: <http://www.parkinson.org>

## When should I call the health care provider?

Your health care provider will want to see your progress and check on how well your treatment is working. Keep your follow-up appointments on the schedule your provider recommends. Discuss any questions and concerns you have at these visits.

Call your health care provider if:

- You have side effects from your medicine, such as nausea, dizziness, and mental changes.
- Your weight drops 3% to 5% in any month.
- You develop fever.
- Swallowing becomes harder.
- You become depressed. (Your provider may be able to prescribe medicines to help.)
- You start to have hallucinations, which can be a side effect of your medicines. (Your health care provider may be able to adjust the dosages of your medicines.)

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